DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-023453
Date Inspected: 04-May-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Job Site

CWI Name:	Pat Swain			**CWI Present:**	☑ Yes	☐ No		
Inspected CWI report:	☐ Yes	☐ No	☑ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A	
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A	
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A	
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A	

Bridge No: 34-0006
Component: Tower

Summary of Items Observed:

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above. This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and monitor American Bridge/Fluor (ABF) welding operations. This Quality Assurance (QA) Inspector, Craig Hager observed the following.

This QA Inspector observed the following work at the Tower Base at the 9 meter elevation; external diaphragm plates are being welded to the various shear plates and tower skin plates. This QA Inspector observed the following during the shift noted above.

This QA Inspector observed the previous day that welding was performed at QC weld joints #34 and #36 and upon the end of welding the weld was covered with the induction heating tubes for the 3 hour post heating. This QA Inspector performed a random visual verification on the welding performed the previous day at weld joints #34 and #36. This QA Inspector observed the weld groove appeared to filled flush with the base material, both of these weld joints are Tee Joints and according to the Welding Procedure Specification (WPS) being used a reinforcing fillet weld is required. This QA Inspector informed QC Inspector Pat Swain of this observation and was informed that he concurred that a reinforcing fillet weld was required.

This QA Inspector observed ABF welding personnel James Zhen (#6001), Jin Quan Huang (#9340), Xiao Jian Wan (#9677) and Wai Kitlai (#2953) setting up the induction heating equipment for welds #33 and #35 (center section). This QA Inspector was later informed by ABF welding Superintendent Danny Ieraci that there were problems with the induction heating equipment and that production welding would not be performed at the 9 meter

elevation this date.

At OBG weld joint 10E/11E-E-1 this QA Inspector observed ABF welding personnel Song Tao (#3794) using the Flux Cored Arc Welding (FCAW) process on a track system for production welding. This QA Inspector was informed by QA Inspector Fred Von Hoff of the following welding parameters; 260 amperes and 24 volts at a travel speed of 300 mm per minute to produce a heat input of 1.24 Kj per mm. This QA Inspector observed welding was approximately 90% complete (last fill pass/first cover pass) at this location. The welding observed appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-3040A-3.

At lifting lug hole 7E-PP52-E3 holes 1 and 3 this QA Inspector observed ABF welding personnel Jason Collins (#8126) using the Shielded Metal Arc Welding (SMAW) process in the overhead (4G) position. This QA Inspector was informed by QC Inspector Fred Von Hoff the following welding parameters were verified; 130 amperes using a 3.2 mm diameter E7018H4R electrode. The welding observed by this QA Inspector appeared to comply with ABF-WPS-D15- 1050A-CU. This QA Inspector randomly observed QC Inspector Fred Von Hoff perform and accept the Magnetic Particle Testing (MT) of the back gouged surface prior to the start of the overhead welding.

At OBG deck 4W-PP28-W4 this QA Inspector observed QC Inspector Mike Johnson perform MT on several small excavations, each approximately 12 mm in length and with a maximum depth of 4 mm. QC Inspector Mike Johnson informed this QA Inspector the deck had been gouged at this location and was being repair welded. QC Inspector Mike Johnson stated the MT inspection was accepted. This QA Inspector observed as ABF welding personnel Fred Kaddu (#2188) used a hand held torch to preheat the area and us the SMAW process to fill the excavations. This QA Inspector observed QC Inspector Mike Johnson verify the following parameters; 125 amperes using an E7018H4R electrode. The welding observed appeared to comply with ABF-WPS-D15-1001-Repair.

In general the work observed this date appeared to comply with the contract requirements.

Summary of Conversations:

This QA Inspector had general conversations with American Bridge/Fluor (ABF) and Caltrans personnel during this shift. Except as described above and noted below there were no notable conversations.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Hager,Craig	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer